THE PERCY SLADEN TRUST EXPEDITIONS * TO THE ABROLHOS ISLANDS (INDIAN OCEAN).

Under the Leadership of Prof. W. J. DAKIN, F.L.S, F.Z.S.

On Two Sea-pens from West Australia.

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[Read 5th May, 1921.]

AT the present time only three species of Pennatulacea have been recorded from the waters of the Western coast of Australia, and these were all found in Shark's Bay, over 200 miles north of the locality from which the two species here recorded were obtained. The species previously recorded are *Policella australis* by Gray (1862), *Virgularia elegans* by Gray (1870), and *Pteroides hymenocaulon* by Broch (1910).

The two specimens obtained by Professor Dakin from the neighbourhood of the Abrolhos Archipelago belong to, or are closely related to, species that are found in the Malay Archipelago; but as other species of the same genera, namely *Veretillum cynomorium* and *Pteroeides griseum*, occur in the Mediterranean Sea, and the genera are widely distributed in shallow to deep water, the presence of the two sea-pens off Abrolhos is a fact of no value, at present, for the determination of the affinities of the local fauna. It is quite possible, or even probable, that they have travelled down from the North, but it would not be surprising to find them a great deal further South, as they are not tropical forms.

VERETILLUM MALAYENSE (*Hickson*) †. 20 fathoms. Off Long Island.

Length of rachis 80 mm., length of stalk 60 mm., diameter of rachis and of stalk 12 mm., diameter of terminal bulb 14 mm. Autozooids 14 mm. in length by 2·5 in diameter.

The rachis is club-shaped, but differs from the rachis of the type-specimen in coming gradually to a blunt extremity. The stalk has a well-marked

* Acknowledgement must be made here also of a grant from the Government Grant Committee of the Royal Society, and a grant from the British Association.

† 'Siboga' Pennatulacea, 1916, p. 48.

basal bulbous swelling. The autozooids are large, and most of them are fully expanded. The siphonozooids are numerous and irregularly scattered on the rachis; they extend a considerable distance down the stalk beyond the last autozooid. The stomodæa have a dorsal ventral diameter of 0·14 mm. The axis is well developed, quadrangular in section, the diagonal measurement being 1·5 mm. in its thickest part. I have not dissected out the axis from this beautifully preserved specimen, but it can be seen through the transparent tissues to be at least two-thirds of the total length of the colony.

The spicules of the rachis are long, thin plates with jagged edges, large ones measuring $0{\cdot}25 \times 0{\cdot}07$ mm., but they are very variable in shape and size, and scattered or clustered. In the expanded part of the autozooids, spicules are very scarce. I have seen one or two at the base of the tentacles, but none in the tentacles themselves.

The type-specimens of this species were found in the Bay of Bima on Sumbawa Island, Malay Archipelago, at a depth of 55 metres, and I have been able to compare the characters of the specimen from W. Australia with the type-specimens which are at present under my care. The specimens from Shark's Bay that were named by Gray *Policella australis* were transferred to the genus *Veretillum* by Kükenthal and Broch, and, in my opinion, this transference was fully justified.

The principal difference between the species *Veretillum malayense* and *V. australe* is that the autozooids of the former are about twice the size of the autozooids of the latter. This character—the size of the autozooids—may be more variable than we are justified in assuming on our knowledge of the half-dozen specimens that have been described, and the two species may be merged into one in the near future. But it is clear that the specimen described above agrees more closely with the specimens hitherto called *V. malayense* than it does with those described as *Policella* (or *Veretillum australis*).

Pteroides sp. ?, juv. 20 fathoms. Outside Wallaby Group.

Length of rachis 25 mm., length of stalk 31 mm. Leaves 11–10. Number of rays on largest leaves 5. Siphonozooid plate basal.

This specimen is evidently a juvenile form, as is shown by its small size, by the small number of leaves, by the rudimentary character of the lower leaves, and by the relative length of the stalk. It may also be regarded as a sign of juvenility that there is only a single row of autozooids on the greater part of the margin of the largest leaves, an additional autozooid of what may be a second row appearing only in one or two isolated places.

As it is impossible, in the present state of our knowledge, to determine accurately the relations of the juvenile forms of this genus, the principal point of interest is to consider whether it is a juvenile of the only species of

the genus that has hitherto been identified from the West coast of Australia, namely *Pt. hymenocaulon*. Broch (1910) examined and carefully described two specimens of this species from Shark's Bay. One was 94 mm. in length and one 140 mm. in length, and therefore it is probable that they possessed most of the adult characters. My reasons for believing that the young specimen from the Wallaby Group is not *P. hymenocaulon* are: (1) that the siphonozooid plate is marginal in *P. hymenocaulon* and basal in our specimen, and (2) that the spicules in the stalk of *P. hymenocaulon* are smaller and more numerous than in our specimen. I do not wish to maintain that these reasons are conclusive, but I am inclined to think that the species to which the specimen belongs is one of my Group II. 3 (see Monograph on 'Siboga' Pennatulacea, p. 231), represented by such species as *Pt. griseum* or *Pt. malayense*.